IN THE UNITED STATES DISTRICT COURT FOR THE NORTHERN DISTRICT OF MISSISSIPPI ABERDEEN DIVISION

THE CHIROPRACTIC NEUROLOGY CENTER OF TUPELO; CHIROPRACTIC NEUROLOGY CONSULTANT PC d/b/a AMERICAN FUNCTIONAL NEUROLOGY INSTITUTE; DR. WILLIAM A. BARLOW, D.C.; and DR. MATTHEW C. MACKEY, D.C.

PLAINTIFFS

 \mathbf{V} .

ACTION NO. 1:15 CV 219-GHD-DAS

DR. MICHAEL JOHNSON, D.C.; DR. MICHAEL JOHNSON d/b/a THE CENTER FOR QUALITY HEALTHCARE; DR. MICHAEL JOHNSON d/b/a JOHNSON METHOD CONSULTING; JOHN DOE ENTITIES 1-10; and JOHN DOES 1-10

DEFENDANTS

OPINION OF TED R. SCOTT, VERITY DIGITAL FORENSICS JANUARY 16, 2017

Opinion

Ted R. Scott, CCE:

Plaintiff Dr. William A. Barlow, D.C. ("Dr. Barlow") sued defendant Dr. Michael Johnson D.C. (Dr. Johnson"). In his complaint, Dr. Barlow alleges, among other things, that:

- in November 2015, Dr. Johnson engaged in a smear campaign by creating a publicly accessible website containing "misleading statements, falsehoods, and defamatory comments about Dr. Barlow";
- as part of this campaign, Dr. Johnson accessed without authorization the Neuro Metabolic Group forum, which is a private secure "message board" owned by Dr. Barlow, which is an online electronic communications service ("ECS");
- the Neuro Metabolic Group forum is secured by passwords;
- Dr. Johnson, without Dr. Barlow's knowledge or

- authorization copied messages that were stored on Dr. Barlow's private secure Neuro Metabolic Group forum;
- Dr. Johnson published to the general public these copies of messages on a public website and a public Facebook page, but in doing so published them out of context and edited them to mislead current and prospective patients, the general public and to damage Dr. Barlow's business and reputation.

I was retained by counsel for Dr. Barlow to assess the Neuro Metabolic Group forum in the context of the *Stored Communications Act* (SCA), passed as part of the Electronic Communications Privacy Act of 1986 and codified at Sections 2701-11 of Title 18 of the United States Code, and corresponding court opinions rendered in *Crispin v. Christian Audigier, Inc.*, 717 F. Supp. 2d 965 (C.D. Cal. 2010), and *Ehling v. Monmouth-Ocean Hosp. Serv. Corp.*, 961 F. Supp. 2d 659 (D.N.J. 2013), for the purpose of comparing the technologies described in those opinions with the technology present in Dr. Barlow's Neuro Metabolic Group forum.

Based upon my understanding of those court opinions

and upon other things, I have reached several expert opinions. The other things I have relied upon include:

- over twenty-five years of professional experience in the field of information technology, including ten years in the digital forensics domain;
- personal familiarity with and use of electronic bulletin board systems (BBS) and message boards, beginning in the late 1980's through their evolution into their present-day incarnations as PHP and Facebook;
- direct access and administrative-level membership to Dr. Barlow's Neuro Metabolic Group forum for the purpose of conducting my analysis;
- the second amended complaint in the matter of Dr. William A. Barlow, D.C. v. Dr. Michael Johnson, D.C., Case No. 1:15 CV 219-GHD-DAS, in the United States District Court for the Northern District of Mississippi;
- the transcript of the deposition of Dr. Johnson taken in *Johnson Chiropractic Neurology v. Chris Steiner*, Case No.: 16-SC-170, in the Circuit Court of Brown County, Wisconsin; and,
- the assistance of Dr. Barlow's legal counsel in interpreting the courts' legal opinions in *Crispin v*. *Christian Audigier*, *Inc.*, 717 F. Supp. 2d 965 (C.D. Cal. 2010), and *Ehling v*. *Monmouth-Ocean Hosp*. *Serv*. *Corp.*, 961 F. Supp. 2d 659 (D.N.J. 2013).

In addition, my opinion is informed by content found on several websites that I cite in my report, all of which I and other experts in my field would reasonably rely on in forming an opinion on the matters upon which I am opining.

The **EXHIBIT-RELEVANT SCREENSHOTS** beginning on page 9 of this opinion provide more

legible copies of the embedded imagery used herein.

Based on these things I am of the opinion that:

- The Neuro Met Group forum meets the criteria of an electronic communications service (ECS), providing users with the ability to send and receive electronic communications;
- Electronic communications in the form of private

- messages and non-public message board postings are in electronic storage;
- Electronic communications are stored by the Neuro Met Group forum for backup purposes;
- Neuro Met Group message board posting are not public since a valid username and password are required for members to access the content; and,
- The private messages and non-public message board postings are covered by the Stored Communications Act.

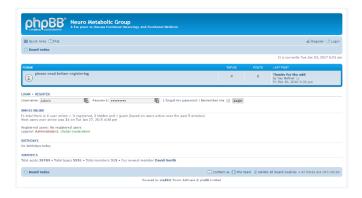
FACTS

The following facts have been garnered from the second amended complaint in the matter of Barlow v. Johnson, Civil Action No. 1:15 CV 219-GHD-DAS, in the United States District Court for the Northern District of Mississippi; information provided by Dr. and Mrs. Barlow; and background information provided by counsel for the plaintiff. Dr. William A. Barlow, a Doctor of Chiropractic, jointly owns The Chiropractic Neurology Center of Tupelo (Mississippi) with coplaintiff Dr. Matthew Mackey. Dr. Barlow and Mrs. Barlow also own and operate a consulting business, the American Functional Neurological Institute (AFNI). Through AFNI, Dr. Barlow hosts the Neuro Metabolic Group, an online forum which allows members (chiropractors) to exchange ideas, to share patient treatment protocols, and to discuss marketing and financial.

I have been informed that the forum was designed so that these matters could be discussed in a private and secure setting. I have confirmed for myself that Dr. Barlow's Neuro Metabolic Group forum is secured with password authentication and caters to a special interest group storing information not available to the general public. I verified this by following the same steps a new doctor would follow to obtain credentials to access the forum as described in detail on page 5. I found that without proper credentials, in the form of a username and password, the forum's contents are inaccessible.

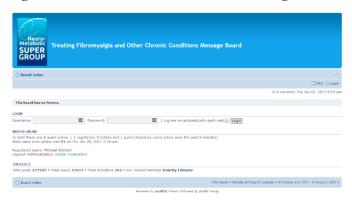
Figure 1 below depicts the initial login screen for the Neuro Met Group forum. The user must enter a valid username and password to proceed into the forum.

Figure 1 - Neuro Metabolic Group Login Screen



I am also informed that Dr. Michael Johnson is also a Doctor of Chiropractic and practices in Appleton, Wisconsin where he operates his own competing online forum, the Neuro-Metabolic SUPER GROUP. Figure 2 below depicts the initial login screen for the Neuro Metabolic SUPER GROUP which is similar in layout to Dr. Barlow's, due in large part to both forums using the phpBB software described on page 5. As with Dr. Barlow's forum, Dr. Johnson's login screen is publicly accessible but to access the content a user must have a valid username and password. I am not a user of Dr. Johnson's forum and correspondingly have no access to his content. The screenshot in Figure 2 is provided simply to show that both parties to this cause have private forums.

Figure 2 - Neuro Metabolic SUPER GROUP Login Screen



The competing forums both cater to chiropractors and, as was found in this case, shared some of the same member doctors.

Both forums are built using phpBB software, a popular tool for creating, hosting and administrating online forums and discussion boards.

Administrators of phpBB forums may setup new users with their username and password, monitor the discussions to ensure they adhere to any forum guidelines and perform other routine maintenance of the forum. Administrators, and those to whom they delegate administrative authority, have direct access to the stored username and passwords for their respective users. Accordingly, as administrators of their respective forums, Doctors Barlow and Johnson would have direct access to the stored username and passwords for their respective users.

In *Johnson Chiropractic Neurology v. Chris Steiner*, Dr. Johnson testified that he used the passwords of certain users from the forum he administers to intentionally circumvent the security of Dr. Barlow's forum to access private material that Dr. Johnson then posted on Facebook and a publicly accessible website.

Retrospective: Bulletin Boards

A basic understanding of online forums is essential to understanding the issues in this case. At its essence, an online forum is like the common bulletin boards shown in the Figure 3 below and often found in public restaurants and on college campuses or privately secured behind locked or restricted access areas in hospitals and federal buildings.

Figure 3 – Common Bulletin Board



In either instance, people who have access to the bulletin board may look at what has been posted to see what interests them and if they wish to contribute something may use a pin or stapler and post it on the board.

Prior to the advent and widespread use of the Internet, electronic bulletin board systems (BBS) were in vogue; this remained true through the mid-1990s. Created in 1978 as the first online adaptation of the traditional bulletin board, the BBS software allowed users to exchange data or private messages and post messages on public message boards. This is the type of bulletin board that is discussed in *Ehling v. Monmouth-Ocean Hospital Service Corp.*, and in the several cases it cites, when the court refers to "electronic bulletin board systems" and 'BBS's, 961 F. Supp. 2d at 666.

The screen depicted in Figure 4 is an example of an early bulletin board system with a basic menu and rudimentary graphics.

Figure 4 – Example of Early Bulletin Board System (BBS)



Today's online forums, also commonly referred to as "message boards," are similar to BBSes but leverage the scale and accessibility of the Internet to dwarf the older technology. Forum software was first developed in 1994 and has grown rapidly with the public's adoption of the Internet. Online forums may be open to the public or they may be privately administered for the exclusive use of special interest groups such as the online forums managed separately by Doctors Barlow and Johnson that cater exclusively to chiropractors.

As illustrated above, the term "electronic bulletin board system" is found in case law and has been used synonymously when describing the online forums in use today.

phpBB Bulletin Board Software

The software underlying the online forums administered separately by Drs. Barlow and Johnson is called "phpBB." A closer comparison of the page footers of the two competing forums depicted on the preceding page shows that they both are built on phpBB as shown in Figure 5:

Figure 5 - Forum Page Footer

Powered by phpBB® Forum Software © phpBB Limited

phpBB is considered to be "[t]he #1 Free, Open Source Bulletin Board Software." In this context, "open source" simply means that the original source code for phpBB (the software programs) are made freely available and can be modified and redistributed.

Though Dr. Barlow and Dr. Johnson both use phpBB, there are dozens of forum options (modern bulletin board systems)³ available.

The contents of the forum, including private messages and non-public message board postings, are stored in a "database" that is simply a collection of information stored electronically and organized for quick retrieval and accessibility. phpBB requires⁴ that a database be installed to function properly. Facebook operates in much the same way and relies heavily on database technology to store and quickly retrieve the vast amounts of its users' content. The earliest electronic bulletin board systems also stored user posts albeit in more basic ways.

Neuro Metabolic Group Forum Membership

A new doctor seeking membership to Dr. Barlow's Neuro Metabolic Group forum is provided with the Uniform Resource Locator (URL), more commonly referred to as a web address, to access the forum. This address is: http://neurometgroup.com/. Upon accessing the web address, the home page of the forum is

¹ http://www.makeuseof.com/tag/how-we-talk-online-a-history-of-online-forums-from-cavemen-days-to-the-present/

² https://www.phpbb.com/

³http://www.forummatrix.org/

⁴ https://www.phpbb.com/support/docs/en/3.1/ug/quickstart/requirem ents

displayed and the new doctor will select the option to register for membership.

The doctor is then required to agree to the legal terms and conditions of the forum's registration agreement for membership. In part, the registration agreement notifies the doctor that "the IP address of all posts are recorded" and "any information you have entered is stored in a database." Further explanation of the significance of these notices is presented in a forthcoming section.

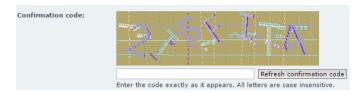
Upon agreeing to the terms for membership, the doctor provides a username, valid email address and a password as depicted in Figure 6.

Figure 6 - New User Creation- Username & Password

Username: Length must be between 3 characters and 20 characters.	
Email address:	
Password: Must be between 6 characters and 100 characters.	
Confirm password:	

Upon confirming the password, the doctor is required to enter a confirmation code (Figure 7) which is used to prevent automated registrations to the forum.

Figure 7 - Example Confirmation Code



Once the doctor submits the registration form the forum administrator, Mrs. Faye Barlow, is notified. Mrs. Barlow reviews the information and either approves or denies the request. Upon approval of the new member request, the username and password are activated for the new member's exclusive personal use.

Discussion

To render an opinion on the applicability of Dr. Barlow's Neuro Metabolic Group forum to existing statutes and case law. I reviewed the courts' opinions in *Crispin v. Christian Audigier, Inc.*, 717 F. Supp. 2d 965

(C.D. Cal. 2010), and *Ehling v. Monmouth-Ocean Hosp. Serv. Corp.*, 961 F. Supp. 2d 659 (D.N.J. 2013). Each case involved interpretations of the Stored Communications Act (SCA), passed as part of the Electronic Communications Privacy Act of 1986 and codified at 18 U.S.C. §§ 2701-11. The opinions in these cases correlate directly with the items at issue in this matter.

In the two subsections that follow, I have relied upon the analysis of attorney Kenneth Coghlan's explanation of the court's interpretation of the SCA and the relevant opinions, providing my insight into the technical matters discussed in them. I have relied, though, on his explanation of the law to formulate my opinions on how the technology described in the opinions resembles the technology of the phpBB bulletin board that Dr. Barlow used. The opinions provided below—comparing the technologies described in the cases and phpBB—are mine.

Crispin v. Christian Audigier Inc.

Kenneth Coghlan's Legal Analysis

In *Crispin v. Christian Audigier. Inc.*, the court was called upon to determine the extent to which the SCA applied to webmail provider Media Temple, Inc. and to two social-networking sites: Facebook and MySpace. 717 F. Supp. 2d 965 (C.D. Cal. 2010). It reached several conclusions.

- Both MySpace and Facebook provide private messaging systems for users and "those forms of communications media are inherently private such that stored messages are not readily accessible to the general public." *Id.* at 991. Accordingly, the SCA applies to them. Further, to the extent private messages are unopened, MySpace and Facebook operate as "ECS providers and the messages are in electronic storage because they fall within the definition of 'temporary, intermediate storage' under § 2510(17)(A)." *Id.* at 987.
- The SCA applies to wall postings on Facebook and to MySpace provided the user's sites are "configured to be private." *Id.* at 981, 991 (internal citation omitted).
- Once wall postings are made, they are held for backup purposes "as defined in the statute."

Analogizing to electronic bulletin board services¹, the court held that "the passive action of failing to delete a BBS post, which is in all material ways analogous to a Facebook wall posting or a MySpace comment, also results in that post being stored for backup purposes." Id. at 989.

Ted Scott's Expert Opinion

The *Crispin* Court's interpretation of the SCA clearly relates to the state of the private messages and non-public message board postings on the Neuro Metabolic Group forum which are electronically stored in a database for backup purposes.

Furthermore, the Court found in *Crispin* that, "With respect to webmail and private messaging, the court is satisfied that those forms of communications media are inherently private such that stored messages are not readily accessible to the general public." Likewise, my analysis confirms that the private messages and non-public message board postings stored on the Neuro Metabolic Group forum are inaccessible to the general public as they are password protected and clearly intended for members of a private special interest group.

Just as Facebook stores the wall posts of its users, Dr. Barlow's phpBB forum stores the message boards posts of its users. For example, in the event of a system outage the posts on Facebook and the Neuro Metabolic Forum having been preserved for backup purposes are accessible again once the respective system returns to normal operations.

In short, in light of Mr. Coghlan's analysis of *Crispin*, private electronic bulletin boards like the Neuro Metabolic Group forum are afforded the protection of the SCA, which like Facebook, store private messages and non-public message board postings for backup purposes since content inaccessible to the general public is considered private or non-public.

Ehling v. Monmouth-Ocean Hosp. Serv. Corp.

Kenneth Coghlan's Legal Analysis

In Ehling v. Monmouth-Ocean Hosp. Serv. Corp., the plaintiff Ehling was suspended from the hospital where she worked after her Facebook wall posts were made known to management who felt that her posts put patient safety was at risk. 961 F. Supp. 2d 659, 661-63 (D.N.J. 2013). She was disciplined, which caused her to sue the hospital for, among other things, violating her rights under the SCA. *Id.* at 665.

The defendants moved to summarily dismiss the claim. Although the court ultimately found that an exception applied in the pending case, the court first found that non-public Facebook wall posts are covered by the SCA.

The court thoroughly examined, and explained, Facebook privacy options, wall postings, and private messaging. *Id.* at 662-63. It also reviewed the legislative and case-law history of the SCA. *Id.* at 666-67. Based upon its review, the court found the following.

- 1. Facebook wall posts are electronic communications. Since users transmit text and images and videos and such from their personal computers and phones to Facebook's servers where they are stored, wall postings are electronic communications under the SCA. *Id.* at 667.
- 2. Facebook is an "electronic communication service provider." Since Facebook enables its users to send and receive electronic communications, including private messages and Facebook wall posts, Facebook is an electronic communication service provider. *Id*.
- 3. **Facebook wall posts are in electronic storage.** The court held that Facebook stores electronic communications for backup purposes. *Id.* at 667-68.

When new posts are added, Facebook archives older posts on separate pages that are accessible, but not displayed. *Crispin*, 717 F. Supp. 2d at 990 n.51 ("As more and more wall postings or comments are added . . . earlier wall postings . . . [are] eventually archived to separate pages."). Because Facebook saves and archives wall posts indefinitely, the Court finds that wall posts are stored for backup purposes. See *id*. at 989 n.50

Id. The court cited approvingly the *Crispin* Court's finding that one reason for a user to leave a post on is for backup storage. *Id.* (citing *Crispin*, 717 F. Supp. 2d at 990 n.51).

¹ Likening Facebook and MySpace to the electronic bulletin boards of an earlier generation (and which Ted Scott describes earlier in this report), the court reviewed the SCA's legislative history and "voluminous case law" to conclude that the consensus is that the SCA applies to private electronic bulletin boards. 717 F.Supp.2d at 977-981. It found "relevant, if not controlling, the authority regarding private electronic bulletin board services ('BBS')." *Id.* at 980.

4. Facebook wall posts configured to be private "are, by definition, not accessible to the general public." The court held that so long as the Facebook users make their wall posts inaccessible to the general public, they are "configured to be private' for purposes of the SCA." 961 F. Supp. 2d at 668-69. The court noted that the number of other users granted permission to access the wall page is irrelevant as long as the public-at-large is excluded. "Indeed, basing a rule on the number of users who can access information would result in arbitrary line-drawing' and would be legally unworkable." *Id*. (citing *Crispin*, 717 F. Supp. 2d at 990).

Based on the four findings identified immediately above, then, and the fact that plaintiff Ehling "chose privacy settings that limited access to her Facebook wall to only her Facebook friends," the court found that her Facebook wall posts were covered by the SCA. 961 F. Supp. 2d at 669.

Ted Scott's Expert Opinion

The four criteria assessed by the court in Ehling directly correlate to and have bearing on this matter and Dr. Johnson's actions in light of the Stored Communications Act. More particularly:

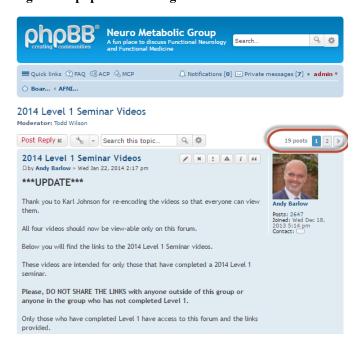
- 1. The Neuro Metabolic Group forum's private messages and message board postings are electronic communications in that users transmit words, pictures, video or other data to the server hosting the forum.
- The Neuro Metabolic Group forum is an "electronic communications service provider." The forum enables its users to send and receive communications electronically over the Internet.
- 3. The Neuro Metabolic Group forum's private messages and message board postings are in electronic storage. Just like Facebook, the forum's content is stored in an electronic database which is stored on a server. And as new postings are added to the forum they are eventually archived onto separate pages as Facebook does for backup purposes.
- 4. The Neuro Metabolic Group forum and its content are configured to be private. The

contents of the forum are secured by passwords and message board postings and private messages are not publicly accessible.

The following section illustrates the similarities between the Neuro Metabolic Group forum and Facebook. In order to create a Facebook wall post a user uses a computer, mobile or some other Internet-connected device to transmit words, pictures or other data to the servers maintained by Facebook where it is stored for, among other purposes, backup purposes. The most recent post is typically found at the top of the wall with older posts advancing further down the page as new posts are added. In this way, older posts are still accessible but not displayed to the user without scrolling further down the page.

A similar method of displaying the posts is used by phpBB as found in Dr. Barlow's Neuro Metabolic Group forum. Instead of maintaining the most recent post as the top of the screen, the original post is shown at the top and responses to the post follow chronologically down the page. For example, Dr. Barlow created the post shown in Figure 8 on January 22, 2014 at 2:17 PM providing links to his 2014 Level1 Seminar videos.

Figure 8 - phpBB Multi-Page Post



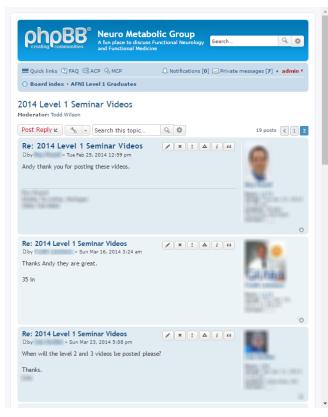
Below (Figure 9) is an enlarged view of the area of the screen depicted on the preceding page that has been circled for emphasis.

Figure 9 - Archived Page Indicator



This area of the page shows there were 18 responses to Dr. Barlow's initial post (19 total posts) and that these posts exceeded one page and the remainder (the most recent posts in the discussion) are found archived on the second page. By clicking on the box corresponding to the second page or the arrow button next to it the user is presented with the second page of posts as shown in the redacted Figure 10 below.

Figure 10 - phpBB Second Page



In *Ehling*, the court found that wall posts are stored for backup purposes because Facebook archives wall posts indefinitely as does the Neuro Metabolic Group forum.

Conclusion

In conclusion, it is clear that Dr. Johnson is not a member of the Neuro Metabolic Group forum. He breached the forum's security by hijacking the credentials of users on his own forum to make unauthorized entry to Dr. Barlow's forum and accessed private electronic communications. According to the legislative history noted in Senate Report 99-541, the *Stored Communications Act* "addresses the growing problem of unauthorized persons deliberately gaining access to, and sometimes tampering with, electronic or wire communications that are not intended to be available to the public." The SCA directly applies to this matter as:

- The Neuro Metabolic Group meets the criteria of an electronic communications service (ECS), providing users with the ability to send and receive electronic communications
- Electronic communications (private messages and non-public message board postings) are in electronic storage
- Electronic communications are stored by the Neuro Metabolic Group forum for backup purposes
- Neuro Metabolic Group message board posting are not public; a valid username and password are required for members to access the content.

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EXHIBIT - RELEVANT SCREENSHOTS

Figure 1 - Neuro Metabolic Group Login Screen

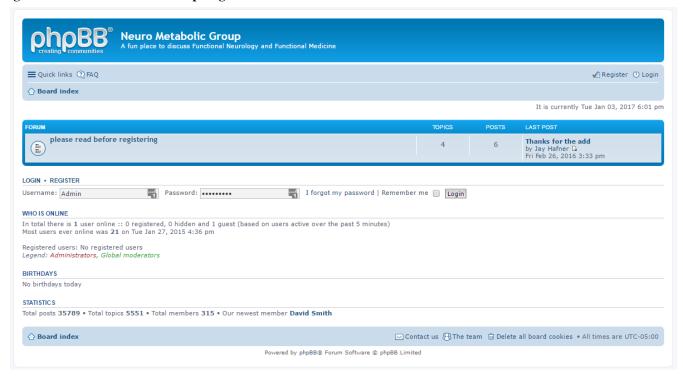
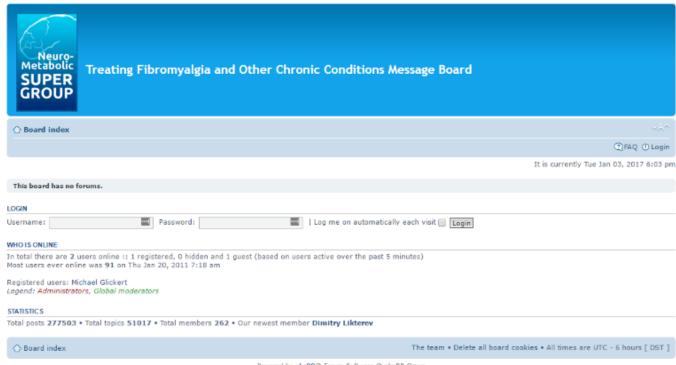


Figure 2 - Neuro Metabolic SUPER GROUP Login Screen



Powered by phpBB⊗ Forum Software © phpBB Group

Figure 3 - Common Bulletin Board



Figure 4 – Example of Early Bulletin Board System (BBS)

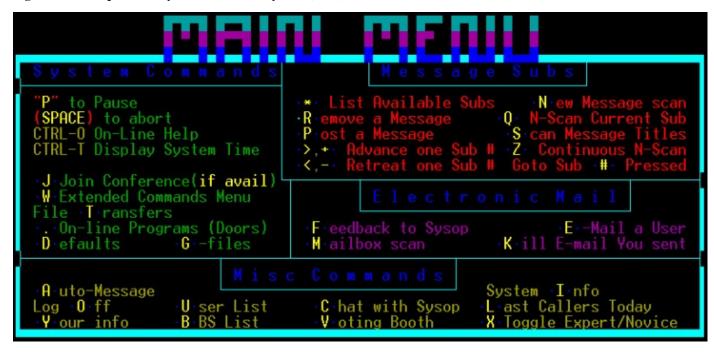


Figure 5 – Forum Page Footer

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Figure 6 - New User Creation- Username & Password

Username: Length must be between 3 characters and 20 characters.	
Email address:	
Password: Must be between 6 characters and 100 characters.	
Confirm password:	

Figure 7 – Example Confirmation Code

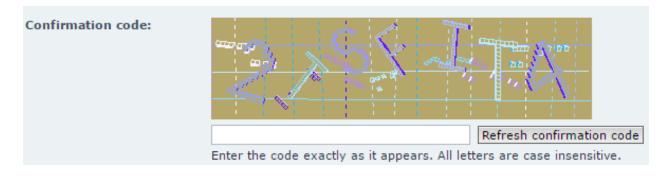


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